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## CLAIMS

1. A method for diagnosing predisposition for obesity in a human individual, comprising
  - 5 (a) obtaining a biological sample containing at least one nucleic acid molecule from said human individual; and
  - (b) analyzing said nucleic acid molecule to detect a genetic polymorphism in the human neuropeptide Y gene at a position defined as position 1128 in Figure 7.
- 10 2. The method according to claim 1 wherein the said polymorphism results in the substitution of leucine by proline at residue 7 in the signal peptide part of pre-pro-neuropeptide Y.
- 15 3. The method according to claim 1 or 2 wherein predisposition for obesity is determined as a genetic susceptibility for increased body-mass index.
- 20 4. A method for diagnosis of one or more single nucleotide polymorphisms in the neuropeptide Y gene in a human individual, comprising determining the sequence of the nucleic acid of the said human individual at one or more positions as defined in Figure 7, said positions selected from:
  - 602;
  - 399;
  - 84;
  - 1008;
  - 25 1057; and
  - 8402.
- 30 5. The method according to claim 4 for use in assessing the predisposition of an individual to a medical condition mediated by neuropeptide Y.
6. The method according to claim 5 wherein said medical condition is obesity.

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7. The method according to claim 6 wherein obesity is determined by an increased body-mass index.
  8. The method according to any one of claims 4 to 6 wherein the said polymorphism is in position -602, -399, or -84 in the promoter region of the human neuropeptide Y gene.
  9. A nucleic acid molecule comprising at least 10 contiguous nucleotides of the sequence shown in Figure 7, having:
    - 10 T at position -602;
    - T at position -399;
    - C at position -84;
    - T at position 1008;
    - G at position 1057; and/or
    - 15 G at position 8402.